

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

NEW SPECIES OF NORTH AMERICAN
DELTOCEPHALINE LEAFHOPPERS (HOMOPTERA,
CICADELLIDAE)¹

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During the course of ecological studies concerning the relationships between leafhopper species and North American grasslands, several species new to science have been encountered. Five of these are described herein in order that the names may be used in subsequent papers. Except as noted, types of the new species are deposited in the collection of the Illinois Natural History Survey, Urbana, Illinois.

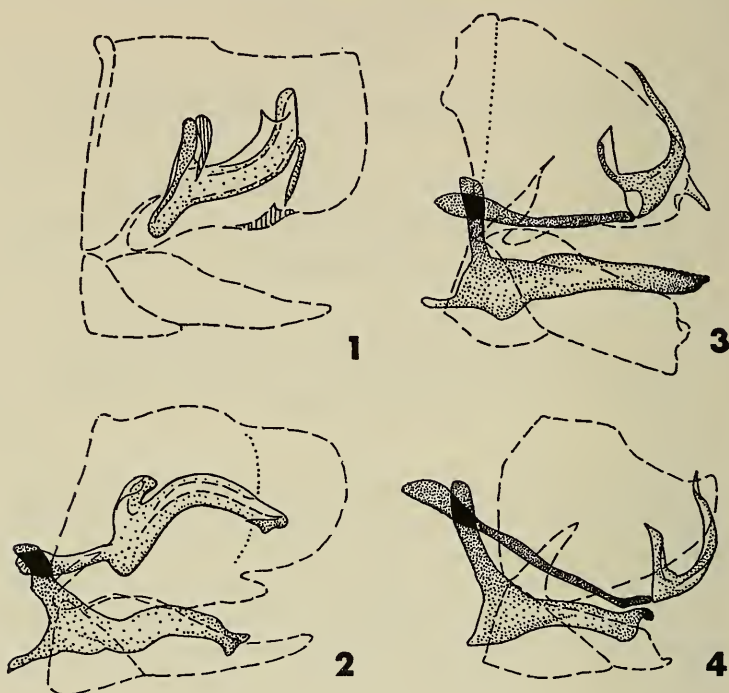
Latalus intermedius new species

Figure 11

In genitalic characters, this species is intermediate between *L. personatus* Beirne (Fig. 10) and *L. histrionicus* Beirne (Fig. 12). The breadth of the shaft below the gonopore resembles that of *personatus*, as do the parallel apical processes of the shaft; the width of the shaft and virtual lack of the second pair of spines ally it to *histrionicus*. The northern part of the range of this species is sympatric with the western part of the range of *personatus*, and the eastern part of the range of the western species *histrionicus*. The southern part of the range of *intermedius* extends into Colorado, far south of the known range of either of the other two species.

Male: Length 2.6-2.8 mm. Color stramineous, mottled with brown; tegmina stramineous, the veins heavily and evenly bordered with fuscous, half filling the apical cells. Aedeagus (Fig. 11) evenly curved dorsad and cephalad, subparallel margined, strongly tapered to base, bearing paired spines one on each side of preapical ventral gonopore,

¹ This investigation was supported by a research grant from the National Science Foundation.

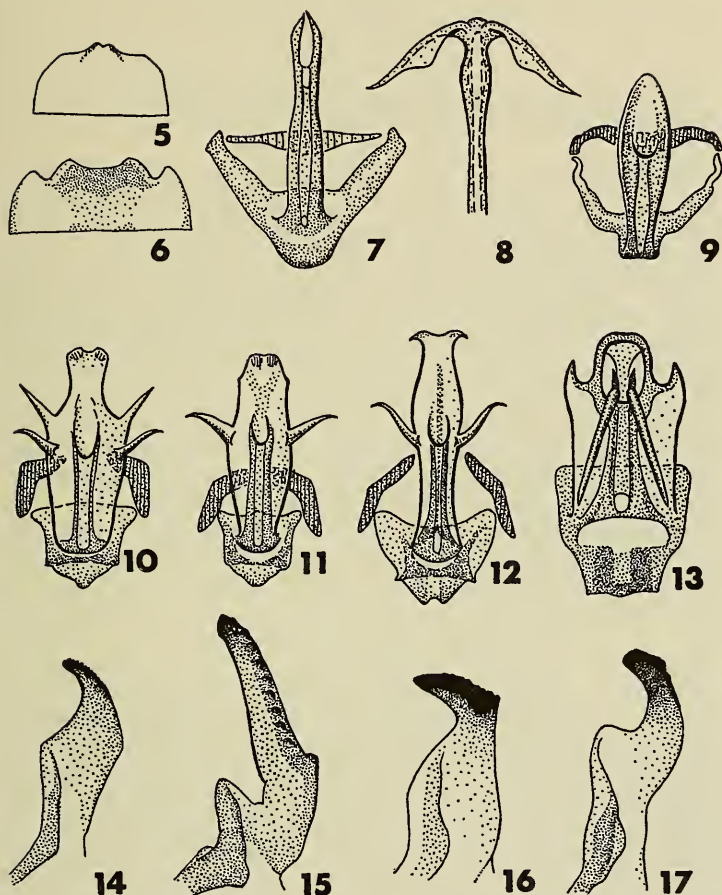


FIGS. 1-4. Male genitalia of leafhoppers, lateral aspect. 1, *Latalus draculus* new species; 2, *Orocastus (Cabrulus) pinnipenis* new species; 3, *Diplocolenus nigrior* new species; 4, *Psammotettix viridinervis* new species.

tiny lateral teeth near apex, and parallel apical processes. Style apex short and strongly hooked, as in *histrionicus*. Plates and pygofer typical for species group.

Female: Length 2.8-3.0 mm. Color as in male. Seventh sternum without projecting lateral angles, caudal margin slightly produced across almost entire width of sternum, shorter and more nearly truncate than that of *personatus*.

Types: Holotype ♂, 10 ♂, 15 ♀, 4 nymphs paratypes, Mt. Flagstaff, near Boulder, Colorado, 27 July 1956, Ross & Ross, GL 312. Additional material from the following localities has been examined: COLORADO: Boulder (GL 313), Cascade (GL 240), Climax (GL 43 & 44), Divide (GL 230), Frisco (GL 34), Green Mountain Falls (GL 241 & 299), Tarryall (GL 222 & 223), Woodland Park (GL 291); ALBERTA: Valley View (GL 1046); BRITISH COLUMBIA: Toad River (GL 1062).



FIGS. 5-6. Female seventh sternum of leafhoppers. 5, *Orocastus (Cabrus) pinnipenis* new species; 6, *Latalus draculus* new species.

FIGS. 7-13. Male aedeagi of leafhoppers, ventral aspect. 7, *Diplocolenus nigrior* new species; 8, *Orocastus (Cabrus) pinnipenis* new species, (apex only); 9, *Psammotettix viridinervis* new species; 10, *Latalus personatus* Beirne; 11, *Latalus intermedius* new species; 12, *Latalus histrionicus* Beirne; 13, *Latalus draculus* new species.

FIGS. 14-17. Male styles of leafhoppers, ventral aspect. 14, *Latalus draculus* new species; 15, *Diplocolenus nigrior* new species; 16, *Orocastus (Cabrus) pinnipenis* new species; 17, *Psammotettix viridinervis* new species.

***Latalus draculus* new species**

Figures 1, 6, 13, 14

This species is related to *uncinatus* Beamer & Tuthill, from which it can be distinguished by the broad pygofer and wide lateral membranes of the shaft.

Male: Length 2.8 mm. Color as in *intermedius*. Genitalia as in Figures 1, 13, 14. Aedeagus curved dorsad on apical half, shaft slender with broad parallel-margined lateral membranes extending to sharp tips beside large round apical gonopore, from which arise two long, divergent spines directed ventrad. Style apex rapidly tapered, small, slightly curved, extreme apex minutely serrate. Plates slightly shorter than pygofer, strongly tapered, as in *sayi* (Fitch). Pygofer broad, not tapered, apex truncate, bearing a tiny in-turned triangular tooth on ventral margin.

Female: Length 3.4–3.6 mm. Color as in male; abdomen greatly exceeding tegmina. Seventh sternum (Fig. 6) with weak lateral angles, broadly and prominently produced across two-thirds of caudal margin, shallowly, broadly and roundedly excavated at center.

Types: Holotype ♂, 1♂ and 2♀ paratypes, Yavapai Co., Oak Creek Canyon overlooking Coconino National Forest, Arizona, 24 August 1970, Harris & Harris, GL 2041.

***Diplocolenus nigrrior* new species**

Figures 3, 7, 15

In several morphological features this species resembles the Alaskan *D. aquilonius* Ross and Hamilton and the Palearctic *D. frauenfeldi* Fieber, from which it can be distinguished by the truncate plate apices. The plates of *nigrrior* are intermediate between the primitive elongate type found in *aquilonius* and *frauenfeldi* and the short, divergent plates found in *configuratus* (Uhler) and *brevior* Ross and Hamilton, the three types forming a phenocline. From this evidence it would seem that *nigrrior* represents a primitive branch of the line leading to *configuratus* and *brevior*.

Male: Length, 3.7 mm. Color: heavily marked with brown, obscuring the stramineous ground color, which appears as five pronotal stripes, a coronal cross and marginal bands, and pale tegminal veins; scutellum stramineous, unmarked. Genitalia as in Figures 3, 7, 15. Aedeagus angled dorsad at basal third of shaft length, parallel-margined, narrower on apical third, terminating in short convergent paired spines above gonopore. Style apex elongate, tapered beyond mesal projection, with a prominent lateral thumblike projection. Plates long, truncate, bearing a strongly sclerotized tooth on caudal margin. Pygofer elongate, tapered, terminating in a short spine directed caudoventrad.

Female: Unknown.

Type: Holotype ♂, Soda Springs, Idaho, 22 July 1951, D. J. & J. N.

Knoll. Type deposited in the D. M. DeLong collection, Ohio State University, Columbus, Ohio.

Orocastus (Cabrulus) pinnipenis new species

Figures 2, 5, 8, 16

This species can be distinguished readily by the finlike apical processes of the male aedeagus.

Male: Length 2.7–2.8 mm. Color cream, unmarked except for two broad, parallel light brown coronal stripes that continue backwards as narrower bands across the pronotum. Elytra milky white, semihyaline, unmarked. Genitalia as in Figures 2, 8, 16. Plates each with a fuscous spot on apical third. Aedeagus stout, widest in lateral aspect, parallel sided, strongly arched in lateral aspect, bearing paired long apical processes directed laterad, widened beyond base to triangular flaps; gonopore dorsal, ovoid; atrial arm very short. Style apex angled laterad, strongly tapered, armed with minute teeth on caudal margin. Plates elongate-triangular, as long as pygofer. Pygofer with caudal margin produced as a broad round lobe, incised on caudoventral margin.

Female: Length 2.7–2.9 mm. Color similar to male, but paler, ivory white on head and pronotum. Tegmina sub-brachypterous. Seventh sternum (Fig. 5) lacking lateral angles; caudal margin produced as two small appressed, darkened teeth, as in *Orocastus perpusillus* Ball and DeLong.

Types: Holotype ♂, 2♂, 3♀ paratypes, Vernon, British Columbia, 12 August 1953, Ross & Ross, GL 66; 5♂, 7♀ paratypes, base of hill, McDonald Pass, Montana, 26 August 1953, H. H. Ross.

Remarks: In comparing this species with related ones in *Orocastus* and related genera, it became apparent that *Orocastus* Oman and *Cabrulus* Oman are remarkably similar in many respects, most conspicuous of which are aedeagal form, shape of the style, and both shape and color pattern of the male plates and female seventh sternum. Chief differences between the two are the absence of coronal bands in *Orocastus* and the fusion of the connective and aedeagus in *Cabrulus*. Both differences occur within various genera (e.g., *Flexamia* DeLong) and seem to be derived characters having little weight for generic recognition. We are, therefore, considering *Cabrulus* as a subgenus of *Orocastus*.

Psammettix viridinervis new species

Figures 4, 9, 17

In Greene's key (1971) to the genus, this species will run to *beirnei* Greene, from which it differs in having the posterior aspect of the aedeagal shaft broadly elliptic rather than flared laterally at the apex as in *beirnei*. It is most closely related to *asper* Ribaut, from which *viridinervis* differs in lacking the row of dorsal serrations on the aedeagal shaft, in having a much shorter gonopore, with the shaft twice as wide

at the middle as its width of the base, and in lacking a two-toned color pattern.

Male: Length, 3.2–3.3 mm. Color pale ochre, unmarked or with weak indefinite blotches of light brown on crown; tegmina stramineous, the veins paler, yellow to light green, giving the wing a greenish cast. Genitalia as in Figures 4, 9, 17. Aedeagus evenly curved dorsad, shaft evenly spatulate, blunt-tipped, gonopore distinctly narrower than shaft. Style apex elongate, terminating in short, curved, blunt mesal process. Plates very short, produced on inner margin to small pointed tips. Pygofer short, tapered to pointed end turned dorsad.

Female: Length, 3.3–3.6 mm. Color as in male. Seventh sternum quadrate, with shallow rounded mesal emargination.

Types: Holotype ♂, 1 ♂, 4 ♀ and 1 nymph paratypes, East of Laramie, Wyoming, 5 August 1967, D. W. Ribble, GL 700.

LITERATURE CITED

- GREENE, J. F. 1971. A revision of the Nearctic species of the genus *Psammotettix* (Homoptera: Cicadellidae). *Smithsonian Contr. Zool.* 74: 1–40.